

AMENDMENTS TO THE CLAIMS:

Replace the claims with the following rewritten listing:

1. (Currently Amended) A repeater, wherein a cell identifier generator module is added to ~~the~~a downlink circuit structure of said repeater, said cell identifier generator module comprising: a synchronization searching unit for searching for a synchronization signal of a base station, a time delay unit for generating a fixed delay between a frame start time of a cell identifier signal and a frame start time of a base station pilot signal, and a cell identifier signal generating unit for generating a cell identifier signal code word; said time delay unit generating the fixed delay according to the searching result of the synchronization searching unit.
2. (Currently Amended) A repeater according to claim 1, wherein: ~~the~~an input end of said cell identifier generator module is connected to ~~the~~a low-noise amplifier module of the repeater, and ~~the~~an output end of said cell identifier generator module is connected to ~~the~~a power amplifier module of the repeater via a coupler.
3. (Currently Amended) A repeater according to claim 2, wherein said cell identifier generator module also comprises: a down-conversion unit, an A/D (Analog to Digital) conversion unit, a D/A (Digital to Analog) conversion unit, a up-conversion unit, and a filtering unit; wherein said down-conversion unit is designed to carry out frequency conversion from RF to intermediate frequency for received signals; said A/D conversion unit is designed to carry out sampling and quantification for intermediate frequency signals; said D/A conversion unit is designed to carry out D/A conversion to obtain a base-band form of the cell identifier signal; said up-conversion unit is designed to carry out conversion from base-band to RF for the cell identifier signal; said filtering unit is designed to carry out band restriction for the cell identifier signal to control frequency leakage to adjacent frequency; said cell identifier signal is coupled to an input end of the power amplifier in the downlink circuit structure of the repeater via said D/A unit, up-conversion unit, and filtering unit.

4. (Currently Amended) A method for positioning mobile station, comprising:

(1) Issuing a cell identifier signal code word, fixed delay, and search window width for the mobile station according to ~~the~~ a positioning request of the mobile station;

(2) The mobile station utilizing a TDOA (Time Difference Of Arrival) measuring function to measure TDOAs of a cell identifier signal and a base station pilot signal and reporting the measured data;

(3) Determining whether there is a time difference consistent to ~~the~~ a fixed delay between the cell identifier signal and the base station pilot signal according to the reported data from the mobile station; if so, going to step (4); otherwise going to step (7);

(4) Reading calibrated value TOA_c of TOA (Time Of Arrival) between ~~the~~ a repeater and the base station, and initiating an ~~RIT-RTT~~ RTT (Round Trip Time) measuring function of the base station to measure ~~RIT-RTT~~ RTT of the mobile station, wherein $TOA_c = (1/2) \text{RTT}$;

(5) Converting the measured ~~RIT-RTT~~ RTT reported from the base station into measured value TOA_m of TOA, wherein $TOA_m = (1/2) \text{RTT}$, which is the TOA from the mobile station to the base station via the repeater, subtracting the calibrated value TOA_c of TOA from the repeater to the base station from TOA_m and taking the result as TOA TOA_{trans} from the mobile station to the repeater, wherein $TOA_{trans} = TOA_m - TOA_c$;

(6) Calculating ~~the~~ distance between the mobile station and the repeater through multiplying TOA_{trans} with light velocity; and

(7) Determining position of the mobile station with the mobile station positioning method.

5. (Currently Amended) A method for positioning mobile station according to claim 4, wherein said cell identifier signal is a scrambling code of the base station, which is different from that of ~~the~~ adjacent base stations.

6. (Original) A method for positioning mobile station according to claim 4, wherein said mobile station positioning method in step (7) is TDOA positioning method.

7. (Original) A method for positioning mobile station according to claim 4, wherein said mobile station positioning method in step (7) is TOA positioning method.